Patent
Attorney Docket No. 0026-0149

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of	)	MAIL STOP Appeal Brief-Patents
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Sergey BRIN et al.	)	Group Art Unit: 2166
	)	
Application No.: 10/629,479	)	Examiner: E. Harper
	)	
Filed: July 28, 2003	)	Confirmation No. 7460
	)	
For: SYSTEM AND METHOD FOR PROVIDING A USER INTERFACE WITH SEARCH QUERY BROADENING	)	

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REPLY BRIEF UNDER 37 CFR § 41.41

Sir:

This Reply Brief is submitted in response to the Examiner's Answer, dated May 14, 2010.

I. STATUS OF CLAIMS

Claims 37-45, 49, 51-57, 63-74, and 77-89 are pending in this application. Claims 1-36, 46-48, 50, 58-62, 75, and 76 were canceled without prejudice or disclaimer. Claims 37-45, 49, 51-57, 63-74, and 77-89 were rejected in the final Office Action, dated June 24, 2009, and are the subject of the present appeal. These claims were reproduced in the Claim Appendix of the Appeal Brief filed on February 12, 2010.

II. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

A. Claims 37-45, 49, 51-57, 63-74, and 77-89 have been rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over U.S. Patent Application Publication No. 2003/021266 to Basu et al. (hereinafter "BASU") in view of U.S. Patent No. 6,243,713 to Nelson (hereinafter "NELSON").

III. ARGUMENTS

In the "Response to Arguments" section of the Examiner's Answer (pp. 16-32), the Examiner reiterates many of the allegations that are presented in the "Grounds of Rejection" section of the Examiner's Answer and in the final Office Action, dated June 24, 2009. Thus, Appellants' arguments presented in the Appeal Brief, filed February 12, 2010, are applicable to those allegations. Appellants submit the following additional remarks, which address the Examiner's allegations in the order that they are presented.

1. Claims 37 and 40-43.

(1) Appellants argued that BASU and NELSON do not disclose or suggest broadening, using one or more processors associated with a computer system, one of the search terms based on a plurality of user-selected operators to produce a broadened search query, where broadening the one of the search terms comprises broadening the one of the search terms to an extent determined by a number of times a same operator is repeated, as recited in claim 37.

In response, the Examiner alleges (Examiner's Answer, pp. 16-17):

> However, as applicant admits Nelson does in fact disclose that additional tokens may be used to represent other words similarly spelled to query keywords, or that have similar meanings, or other images of similar shape, color, or texture. This query expansion can be done by default or at the discretion of the user via query operators. In addition, query expansion can add tokens of one component type in response to the presence of tokens of another type. This is the definition of expanding a query. Each token broadens the search by adding to the scope of the search not only the terms that are included in the original query but terms that are similar but not the same, spelled different or simply related. The numbers of terms added to the query depends on the number of tokens present in the expansion. Explicitly stated in column 7 lines 30-45 is that if a user presents a query with the term sunset the query will be expanded depending on the number of tokens to added colors, luminance, and phonemes thus increasing the likelihood that the user will get the information they want. (see column 7 lines 30-45 of Nelson.

Appellants respectfully submit that this allegation does not address the above-noted feature of claim 37. For example, the term "token" as disclosed in NELSON refers to

components of data items used to index the data. Col. 67, lines 1-19 of NELSON disclose what is meant by the term "token":

> In the preferred embodiment, the index data comprises a set of tokens. Each token represents some aspect of a multimedia component in the compound document; the token also has additional reference data that defines at least the position in the compound document of the original multimedia component (or portion thereof) that is associated with the token, and may include the actual, or preferably, processed data extracted from, and representative of the original component. A multimedia component may be characterized by one or more tokens. For example, a text component (e.g., a paragraph of text) may be indexed by a number of tokens, each representing one or more words of the text component, while an image may be indexed by one or more image tokens representing different image attributes, such as color, texture, and so forth. A token may, but need not, be identical to the data that it represents. For example, a text token in most cases will represent an actual text string; e.g. the token "house" will be used to index the word "house".

The Examiner appears to be relying on the "tokens" of NELSON for allegedly corresponding to a plurality of user-selected operators, as recited in claim 37. This correspondence is clearly illogical, as the tokens of NELSON are clearly not operators. Rather, the operators disclosed by NELSON are described at col. 6, lines 43-56. This section of NELSON discloses:

> FIG. 3 illustrates an example of a multimedia query 150. In this example, the query 150 includes both text 151 and image 157 components, and a number of query operators 152 defining both logical relationships 152 and proximity relationships 156 between the multimedia components. In addition, in this example, additional query feature operators 154 such as "/shape" and "/color" enable the user to selectively define which aspects of the query images are of interest. The "/shape" operator delimits that portion of the query to images having similar shapes as the sailboat image (where shape is internally determined by edge detection and similar analysis), whereas the "/color" operator delimits that portion of the query to images having colors similar to the sunset image.

Appellants respectfully submit that none of these sections of NELSON disclose or suggest broadening, using one or more processors associated with a computer system, one of the search terms based on a plurality of user-selected operators to produce a broadened search query, where broadening the one of the search terms comprises broadening the one of the search terms to an extent determined by a number of times a same operator is repeated, as recited in claim 37.

(2) Appellants further argued that the Examiner's reasons for combining BASU and NELSON are insufficient for establishing a *prima facie* case of obviousness with respect to claim 37, because the Examiner has not provided any articulated reasoning or explicit analysis as required by KSR.

In response, the Examiner alleges (Examiner's Answer, pp. 19-20):

> Examiner's reason for combining state in part "The modification would have been obvious because the two references are concerned with the solution to problem query broadening and data retrieval, therefore there is implicit motivation to combine these references." Accordingly, it seems that the examiner has at the very least stated that the suggestion of the references that they are implicitly involved in solving the same problem. Moreover, the rationale to support a conclusion that the claim would have been obvious is that " a person of ordinary skill in the art would have been motivated to combine the prior art to achieve the claimed invention and that there would have been a reasonable expectation of success."

Instead of specifically addressing BASU and NELSON, the Examiner does not even mention the cited references. Rather, the Examiner alleges that "there would have been a reasonable expectation of success." As explained on p. 12 of the Appeal Brief, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness. Merely alleging that "there would have been a reasonable expectation of success" is insufficient for providing such articulated reasoning.

For at least the reasons given above and for those reasons given in the Appeal Brief, Appellants respectfully request that the rejection of claims 37 and 40-43 under 35 U.S.C. § 103(a) based on BASU and NELSON be reversed.

2. Claim 38.

Appellants argued that BASU and NELSON do not disclose or suggest that a search query further includes a user-selected delimiter associated with another one of the search terms that indicates that the other one of the search terms should not be broadened, as recited in claim 38.

In response, the Examiner alleges (Examiner's Answer, pp. 21-22):

> In this case a delimiter is simply a marking of the end. In the case of the claim language it marks the end of the use in broadening of whatever is attached to the user selection. Moreover, the claims do not state that the delimiter has to be directly correlated to the original query. Applicant argues that since the modification takes place in a sub query it is not longer an indication that a term should be broadened. Once a user selects that smoke is not related then during there will no longer be any broadening based on the term smoke.

Appellants respectfully submit that claim 38 clearly recites that a search query includes a user-selected delimiter associated with another one of the search terms. Therefore, the Examiner's allegation that the claims do not state that the delimiter has to be directly correlated to the original query is factually incorrect.

With respect to the Examiner's allegation that a delimiter simply marks the end of the use in broadening, claim 38 specifically recites that the user-selected delimiter, associated with a search term, indicates that the search term should not be broadened. Thus, if the Examiner interprets a marking at the end of a search term indicating the end of broadening as allegedly corresponding to the delimiter, as recited in claim 38, then this interpretation does not address the feature of claim 38, because in that case the term that is associated with the marking indicating the end of broadening is being broadened, while claim 38 recites that the search term associated with the delimiter should not be broadened.

For at least the reasons given above and for those reasons given in the Appeal Brief, Appellants respectfully request that the rejection of claim 38 under 35 U.S.C. § 103(a) based on BASU and NELSON be reversed.

3. Claim 73.

Appellants argued that BASU and NELSON do not disclose or suggest means for presenting at least one broadened search term, associated with one of the search results of

a search query, as at least one of a static list, a menu of selectable search terms, a set of checkboxes, or a list of selectable search terms, and means for receiving a selection from the presented at least one broadened search term from a user, as recited in claim 73.

In response, the Examiner alleges (Examiner's Answer, p. 23):

> In this case BASU does disclose iterations but more importantly Nelson also disclosed that expansion is also an automatic thing will add tokens based on the presence of other tokens.

Appellants respectfully submit that the Examiner's allegation does not address the above-noted feature of claim 73. For example, disclosing that expansion is automatic or that tokens are added based on the presence of other tokens does not reasonably correspond to a menu of selectable search terms, a set of checkboxes, or a list of selectable search terms.

For at least the reasons given above and for those reasons given in the Appeal Brief, Appellants respectfully request that the rejection of claim 73 under 35 U.S.C. § 103(a) based on BASU and NELSON be reversed.

4. Claim 45.

Appellants argued that BASU and NELSON do not disclose or suggest presenting at least one broadened search characteristic associated with one of the search terms of a search query as a hyperlink and forming a broadened search query responsive to a selection of the hyperlink by a user, as recited in claim 45.

In response, the Examiner does not address Appellants' arguments. Rather, the Examiner pasted the arguments presented with respect to claim 37 (see Examiner's Answer, pp. 25-26), which are inapplicable to the features of claim 45.

For at least the reasons given above and for those reasons given in the Appeal Brief, Appellants respectfully request that the rejection of claim 45 under 35 U.S.C. § 103(a) based on BASU and NELSON be reversed.

5. Claims 39 and 77-79.

Appellants argued that BASU and NELSON do not disclose or suggest excluding, using one or more processors associated with a computer system, a broadened one of a plurality of search terms from a search query, and evaluating, using one or more processors associated with the computer system, the search results relative to the excluded search term using categorical or clustered distinctions, as recited in claim 39.

In response, the Examiner alleges (Examiner's Answer, 29):

> In this case as discussed above with respect to the delimiter claim language in this case simply states excluding, using one or more processors associated with a computer system, a broadened one of a plurality of search terms from a search query, and evaluating, using one or more processors associated with the computer system, the search results relative to the excluded search term using categorical or clustered distinctions this means a normal broadening that would occur shouldn't occur. Moreover the claims do not state that the delimiter has to be directly correlated to the original query. Applicant argues that since the modification takes place in a sub query it is no longer an indication that a term should be broadened. Once a user selects that smoke is not related then during there will no longer be any broadening based on the term smoke.

At the outset, Appellants respectfully submit that the Examiner's allegations regarding a delimiter do not address the above-noted feature of claim 39, since the term "delimiter" is not recited in this feature of claim 39. Furthermore, the Examiner's allegation, that the above-noted feature of claim 39 corresponds to a case where normal broadening would not occur, is factually incorrect. Claim 39 does not recite not broadening a search term. Rather, claim 39 specifically recites excluding a broadened search term and evaluating the search results relative to the excluded search term using categorical or clustered distinctions. The Examiner did not address this feature.

For at least the reasons given above and for those reasons given in the Appeal Brief, Appellants respectfully request that the rejection of claims 37 and 77-79 under 35 U.S.C. § 103(a) based on BASU and NELSON be reversed.

6. Claims 49, 52-55, and 63.

Appellants argued that BASU and NELSON do not disclose or suggest one or more instructions to broaden one of the search terms of a search query to an extent determined by a user-assigned strength to produce a broadened search query, where a number of multiple symbols in the search query determines the extent to which the one of the search terms is broadened, as recited in claim 49.

In response, the Examiner alleges (Examiner's Answer, p. 32):

> In this case, BASU does disclose the claim limitations. BASU discloses query expansion that is adaptive and can be modified by user interactions and queries (see paragraph 0038). Moreover paragraph 0038 discloses a score called "probability of relevance" that is adjusted based on whether or not the term should be used (essentially a user assigned strength).

Appellants will address paragraph [0038] of BASU. This section of BASU discloses:

> As mentioned above, the query system 108 of the present invention is adaptive. Specifically, the system 108 includes an adaptation module 212 that attempts to refine the search results as queries are repeated over time. The adaptation module 212 is capable of modifying the query expansion module 204, the sub-query processing module 206, and the merging module 208 according to user and system feedback. For example, if a user indicates that the sub-query term "smoke" is not relevant in a "rocket launch" query, the adaptation module 212 may adaptively assign a lower probability of relevance to the "smoke" sub-query in future iterations of "rocket launch" queries. In other words, the adaptation module 212 modifies the query expansion module 204 so that the term "smoke" is assigned a lower confidence level in a "rocket launch" query. The parametric learning techniques of the adaptation module 212 may use a generative approach, including, but not limited to, probabilistic models and graphical probabilistic models and/or a discriminant approach, including, but not limited to, kernel machines, such as support vector machines and neural networks. The adaptation process of the system 108 is discussed in greater detail below.

This section of BASU discloses that if a user indicates that the sub-query term "smoke" is not relevant in a "rocket launch" query, the adaptation module will assign a lower probability of relevance to the "smoke" sub-query in future iterations of "rocket launch" query.

At the outset, claim 49 recites one or more instructions to receive a search query comprising a plurality of search terms from a user, where the search query includes multiple symbols which define a user-assigned strength of broadening associated with one of the search terms of the search query. This section of BASU does not disclose or suggest a search query that includes multiple symbols which define a user-defined strength of broadening associated with one of the search terms of the search query. Rather, this section of BASU discloses that if a user indicates that the sub-query term "smoke," which was not a query term of the query "rocket launch," is not relevant, then the sub-query "smoke" is assigned a lower probability of relevance. In fact, this section of BASU does not disclose or suggest any user-defined strength of broadening associated with either the term "rocket" or the term "launch," as would be required by claim 49, based on the Examiner's apparent interpretation of this section of BASU.

Since this section of BASU does not disclose or suggest a search query that includes multiple symbols which define a user-assigned strength of broadening associated with one of the search terms of the search query, this section of BASU cannot disclose or suggest one or more instructions to broaden one of the search terms of a search query to an extent determined by a user-assigned strength to produce a broadened search query, where a number of multiple symbols in the search query determines the extent to which the one of the search terms is broadened, as recited in claim 49.

For at least the reasons given above and for those reasons given in the Appeal Brief, Appellants respectfully request that the rejection of claims 49, 52-55, and 63 under 35 U.S.C. § 103(a) based on BASU and NELSON be reversed.

IV. CONCLUSION

In view of the foregoing arguments and those arguments presented in the Appeal Brief, Appellants respectfully solicit the Honorable Board to reverse the Examiner's rejections of claims 37-45, 49, 51-57, 63-74, and 77-89.

To the extent necessary, a petition for an extension of time under 37 C.F.R. § 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account No. 50-1070 and please credit any excess fees to such deposit account.

Respectfully submitted,

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